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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,589	03/23/2004	Robin David Hill	2432-00015	2232

7590 10/28/2004  
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EXAMINER

BROUSSARD, COREY M

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/806,589

**Applicant(s)**

HILL, ROBIN DAVID

**Examiner**

Corey M. Broussard

**Art Unit**

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura et al (PN 5,929,741). With respect to claim 1, Nishimura teaches a fuse arrangement comprising a circuit board (14) having a terminal region (outer ends of element 12 used to connect 12 to rest of circuit) and a conductive track (12) electrically connected. A fuse region of reduced cross-sectional area (13) being shaped to cause a deviation in the current flow through the fuse region (Fig. 5A-5C).
3. With respect to claim 2, Nishimura teaches of a fuse region of first and second parts angled to one another to form the deviation (Fig. 5A-5C).
4. With respect to claim 3, the first and second parts are angled to one another by an angle falling within the range of 70° to 110° (Fig. 5C has a 90°angle).
5. With respect to claim 4, the first and second parts are angled to on another by an angle of about 90° (Fig. 5C).
6. With respect to claim 5, a sharp indent is formed in the fuse region (indent of 13 in Fig. 5A).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (PN 5,929,741) in view of Breece (PN 4,616,286). With respect to claim 6, Nishimura teaches a fuse arrangement comprising a circuit board (14) having a terminal region (outer ends of element 12 used to connect 12 to rest of circuit) and a conductive track (12) electrically connected. A fuse region of reduced cross-sectional area (13) being shaped to cause a deviation in the current flow through the fuse region (Fig. 5A-5C). Nishimura does not disclose a clamping device electrically connected to the track. Breece teaches of a fuse (8) and a clamping device (14 or 12) electrically connected to the device. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the fuse structure of Nishimura with the clamping circuit design of Breece for the benefit of a clamped fuse with voltage and current spike protection and voltage regulation.

9. With respect to claim 7, Nishimura as modified by Breece, where the clamping device is a zener diode (12) or a suppressor (14).

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (PN 5,929,741) in view of Pitts (2004/0085120). Nishimura teaches a fuse arrangement comprising a circuit board (14) having a terminal region (terminal

connected to element 12) and a conductive track (12) electrically connected. A fuse region of reduced cross-sectional area (13) being shaped to cause a deviation in the current flow through the fuse region (Fig. 5A-5C). Nishimura does not disclose a clamping device electrically connected to the track. Pitts teaches a fuse arrangement where the clamping device electrically connected to the track is a ground link (11). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the fuse structure of Nishimura with the clamping circuit design of Breece for the benefit of a clamped fuse where the clamped voltage is 0 with respect to the potential reference of the circuit.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wiley Encyclopedia of Electrical and Electronics Engineering Online is cited as a reference to define the term Zener diode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey M. Broussard whose telephone number is 571 272 2799. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2835

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmb

  
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